

CD-ROM REVIEW

ThripsID: Pest Thrips of the world, by Gerald Moritz, David Morris & Laurence Mound. Publisher: CSIRO Publishing. Format: CDROM, suitable for Windows 95/98/ME/2000 and Xp. Minimum requirements: 32 MB Ram, 16 bit colour or higher (SVGA), CDROM drive 20 MB HDD. Browser supplied: IE 5.0 and Mozilla. Price: \$A80

Released in 2001, this CDROM interactive key covers identification of the world's economically important thrips. From the outset I struggled with both the formatting and packaging of this product. The CDROM is distributed in a DVD case and I nearly broke the CD trying to get it out of the case, primarily due to my unfamiliarity with this form of packaging. Having figured out that you have to press the button to get the CD out I then discovered that this CD has the dubious honour of being only the second CD that my CDROM refuses to read (both were from CSIRO Publishing). So after copying it from another CDROM and burning a new copy I finally ended up installing and running ThripsID.

Installation and operation of the program was very easy on the 95, 98 and Xp machines I tried it on. The interactive key uses Lucid (ver. 2.0) software and browser software (if browser software is not already present on the users machine, the user can install either Netscape or Internet Explorer (ver. 5) as they are also included with this package). I do note with some interest that Lucid now runs ver. 2.1 (<http://www.lucidcentral.com>) but this version update had no impact on the performance of this key.

I find the operation of Lucid keys particularly intuitive and easy to use due to prior experience with them and this coloured my judgement on the operability of this key. I gave a non-taxonomist a thrips slide and asked them to 'have a go' with the key and interestingly they stumbled on the interactive tutorial that is included with this key. The tutorial has very clear text descriptions of what users can expect to see on the screen which did not immediately translate to this user recognising these features on the screen. It was a little ironic that such a commendable, graphics-orientated program uses so little graphics in the tutorial to illustrate the buttons, windows and other features that it mentions in the tutorial text. Having said that the tutorial did adequately cover all the salient features required for first time users in a simple, concise, step by step fashion and once the tester figured out what was what we had an identification in a short time. Extensive and well illustrated 'Help' is provided with Lucid and although there is a provision for a 'Custom Help' feature none is available for the ThripsID package.

Once the user has mastered Lucid, the operation of the key is very easy to use with almost all taxa and character states being supported by, often multiple graphics and explanatory notes. More than 1500 excellent colour and B & W photomicrographs are used in the key and these are mostly derived from the "Automontage" imaging system which gives users a 'what you see is what you get' view of characters and taxa. These images appear as they would were you to look through a microscope but with a far greater depth of field. The authors have used the macro facility of Lucid to help highlight some character states which I found extremely useful in some instances and a bit of a waste of time for some other images. The macro feature, when run, moves a mouse cursor over the image to, or around, the character you wish to illustrate. In

some instances annotation of the images may have been easier to interpret than the macro, for example antennal segment numbers - a simple numbering of the segments would have sufficed. Similarly an image of the forked sense cones on antennal segments III and IV was illustrated with an image showing III and all subsequent antennal segments and the novice who trialed the key in my presence thought that the image started at antennal segment I.

The key covers 180 species in 95 genera and includes representatives from all 9 known families with the taxa representing most of the major and minor thrips pest species recorded widely around the world. ThripsID works by firstly providing a key to families which ultimately then cascades to a subfamily key and/or then to a species level key. Detailed and generous notes and illustrations are provided for diagnoses for each family, subfamily and species mentioned in the key.

Notes supplied for each taxon usually include morphological diagnosis, nomenclatural details, food hosts, economic importance, distribution, generic relations and related species. References are mentioned within the text but I could not find where these are listed. It is a pity that these references could not be independently searched using something like 'Custom Help'. This would also allow these references to be cross-linked in the text. A particularly useful feature of this key is the provision of a 'netsearch' feature which races off to a variety of WWW search engines and searches for info on the currently selected taxon. A 'netsearch' of *Thrips tabaci* returned a long list of useful sites and at least a few oddities. I did search the returned CNN Sports site and two EBay Disney Auction sites but strangely could find no trace of any *Thrips tabaci* information.

I firmly believe that the plentiful use of good graphics to illustrate characters and taxa in place of, or in addition to, text within a key will vastly improve any key's useability and this key provides an excellent example of how this can best be done. The abundant use of graphics is of particular importance where the 'clients' may not be taxonomic specialists. This product with its ease of use, rich support of excellent graphics and information is primarily aimed at research workers, quarantine officers and economic entomologists and will undoubtedly become an essential tool for such folk. Some virologists, parataxonomists and students may also find this key very useful and I would highly recommend it to any person interested in the Thysanoptera.

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